

## **AMENDMENTS TO THE CLAIMS**

The following listing of claims replaces all previous versions, and listings, of claims in the Application.

### **Listing of Claims:**

Claims 1-21 (Canceled).

22. (Currently amended) A communication network supporting the ~~exchange~~ communication of voice and data, the network comprising:

at least one portable terminal having a wireless transceiver that communicates adapted for communication using a packet protocol protocol, wherein a packet is a unit of information transmitted as a whole from one device to another over the communication network;

the at least one portable ~~terminal adapted for~~ terminal, during a voice call, converting sound into digital voice packets for transmission via the wireless transceiver, and ~~for~~ receiving digital voice packets via the wireless transceiver, the contents of the digital voice packet for conversion into sound;

the at least one portable ~~terminal adapted for~~ terminal, during operation, capturing digital data into data packets for transmission via the wireless transceiver, and ~~for~~ receiving data packets via the wireless transceiver, the contents of the data packets used for reproducing digital data;

at least one access device having a wireless transceiver for communicating ~~exchanging one or both of~~ digital voice packets and digital data packets with the at least one portable terminal, the at least one access device comprising a network interface for ~~exchanging~~ communicating information via a wired network;

the at least one access device selectively transferring to its wireless transceiver for transmission at least a portion of the information received from its network interface, and selectively transferring to its network interface for transmission at least a portion of the information received by its wireless transceiver;

wherein digital voice packets wirelessly ~~exchanged~~ communicated by the at least one portable terminal comprise destination information used for routing the digital voice packets through the communication network;

wherein the at least one portable terminal ~~device~~ evaluates a message wirelessly received from the at least one access device and sends to the at least one access device an indication of a data rate based on the evaluation; and

wherein the at least one access device selects a data rate for transmitting digital voice packets and digital data packets to the at least one portable terminal ~~device~~, based upon the indication of a data rate.

23. (Previously presented) The communication network of claim 22 wherein the wireless transceivers communicate at a frequency of approximately 2.4 gigahertz.

24. (Previously presented) The communication network of claim 22 wherein the wireless transceivers communicate using a frequency hopping spread spectrum technique.

25. (Previously presented) The communication network of claim 22 wherein the wireless transceivers communicate using a direct sequence spread spectrum technique.

26. (Previously presented) The communication network of claim 22 wherein the packet protocol comprises an Internet protocol (IP).

27. (Previously presented) The communication network of claim 26 wherein the Internet protocol is the transmission control protocol (TCP)/Internet protocol (IP) protocol.

28. (Currently amended) The communication network of claim 22 wherein the packets ~~exchanged~~ communicated by the at least one portable terminal comprise digital voice packets and data packets.

29. (Previously presented) The communication network of claim 22 wherein packets are transported wirelessly without regard to content.

30. (Previously presented) The communication network of claim 22 wherein the wired network comprises a packet network.

31. (Previously presented) The communication network of claim 30 wherein the packet network uses an Internet protocol (IP).

32. (Previously presented) The communication network of claim 30 wherein the Internet protocol is the transmission control protocol (TCP)/Internet protocol (IP) protocol.

33. (Previously presented) The communication network of claim 22 wherein the wired network comprises an Ethernet compliant network.

34. (Previously presented) The communication network of claim 22 wherein the wired network comprises a conventional switched telephone network.

35. (Previously presented) The communication network of claim 33 wherein the network interface communicates via the wired network in digital form.

36. (Previously presented) The communication network of claim 22 wherein the communication network supports the establishment of voice calls by the at least one portable terminal via the wired network.

37. (Previously presented) The communication network of claim 22 wherein the communication network supports the receipt of voice calls by the at least one portable terminal from the wired network.

38. (Currently amended) The communication network of claim 22 wherein the communication network supports the concurrent ~~exchange~~ communication of data unrelated to a voice call.

39. (Currently amended) A communication network supporting the ~~exchange~~ communication of voice and data, the network comprising:

at least one portable terminal having a wireless transceiver ~~adapted for communication~~ that communicates using a packet ~~protocol~~ protocol, wherein a packet is a unit of information transmitted as a whole from one device to another over the communication network;

the at least one portable terminal arranged to ~~exchange~~ communicate via the wireless transceiver packets comprising digital representations of sound;

the at least one portable ~~terminal adapted to exchange~~ terminal communicating via the wireless transceiver packets comprising digital data;

at least one access device having a wireless transceiver for ~~exchanging~~ communicating one or both of packets comprising digital representations of sound and packets comprising digital data with the at least one portable terminal and comprising at least one network interface for ~~exchanging~~ communicating information via a wired network;

the at least one access device adapting one or both of packets comprising digital representations of sound and packets comprising digital data from its wireless transceiver for transmission via a designated one of the at least one network interface,

and for adapting information from the designated one of the at least one network interface for transmission as one or both of packets comprising digital representations of sound and packets comprising digital data via its wireless transceiver;

wherein the packets comprising digital representations of sound also comprise destination information used for routing the packets through the communication network;

wherein the at least one portable terminal evaluates a message wirelessly received from the at least one access device and sends to the at least one access device an indication of a data rate based on the evaluation; and

wherein the at least one access device selects a data rate for transmitting one or both of packets comprising digital representations of sound and packets comprising digital data to the at least one portable terminal, based upon the indication of a data rate.

40. (Previously presented) The communication network of claim 39 wherein the wireless transceivers communicate at a frequency of approximately 2.4 gigahertz.

41. (Previously presented) The communication network of claim 39 wherein the wireless transceivers communicate using a frequency hopping spread spectrum technique.

42. (Previously presented) The communication network of claim 39 wherein the wireless transceivers communicate using a direct sequence spread spectrum technique.

43. (Previously presented) The communication network of claim 39 wherein the packet protocol comprises an Internet protocol (IP).

44. (Previously presented) The communication network of claim 43 wherein the Internet protocol is the transmission control protocol (TCP)/Internet protocol (IP) protocol.

45. (Currently amended) The communication network of claim 39 wherein the packets ~~exchanged~~ communicated by the at least one portable terminal comprise digital voice packets and data packets.

46. (Previously presented) The communication network of claim 39 wherein packets are transported wirelessly without regard to content.

47. (Previously presented) The communication network of claim 39 wherein the wired network comprises a packet network.

48. (Previously presented) The communication network of claim 47 wherein the packet network uses an Internet protocol (IP).

49. (Previously presented) The communication network of claim 47 wherein the Internet protocol is the transmission control protocol (TCP)/Internet protocol (IP) protocol.

50. (Previously presented) The communication network of claim 39 wherein the wired network comprises an Ethernet compliant network.

51. (Previously presented) The communication network of claim 39 wherein the wired network comprises a conventional switched telephone network.

52. (Previously presented) The communication network of claim 51 wherein the network interface communicates via the wired network using digital information.

53. (Previously presented) The communication network of claim 39 wherein the communication network supports the establishment of voice calls by the at least one portable terminal via the wired network.

54. (Previously presented) The communication network of claim 39 wherein the communication network supports the receipt of voice calls by the at least one portable terminal from the wired network.

55. (Currently amended) The communication network of claim 39 wherein the communication network supports the concurrent ~~exchange~~ communication of data unrelated to a voice call.

56. (Previously presented) The communication network of claim 39 wherein the designated one of the at least one network interface is designated based upon information received via the wireless transceiver.

57. (Previously presented) The communication network of claim 39 wherein the designated one of the at least one network interface is designated based upon information received via the network interface.

58. (Currently amended) A communication device supporting the ~~exchange~~ communication of voice and data, the device comprising:

wireless communication circuitry for communicating using a packet ~~protocol~~ protocol, wherein a packet is a unit of information transmitted as a whole from one device to another over a communication network;

circuitry for converting an electrical signal representative of sound into digital voice packets for transmission via the wireless communication circuitry, and for receiving digital voice packets via the wireless communication circuitry, the contents of the received digital voice packets for conversion into sound;

circuitry for capturing digital data into data packets for transmission via the wireless communication circuitry, and for receiving data packets via the wireless

communication circuitry, the contents of the received data packets used for reproducing digital data;

wherein the wireless communication circuitry ~~exchanges~~ communicates packets with at least one access device of [[a]] the communication network;

wherein digital voice packets wirelessly ~~exchanged~~ communicated by the communication device and the at least one access device comprise destination information used for routing the digital voice packets through the communication network;

wherein the communication device evaluates a message wirelessly received from the at least one access device and sends to the at least one access device an indication of a data rate based on the evaluation; and

wherein the at least one access device selects a data rate for transmitting digital voice packets to the communication device, based upon the indication of a data rate.

59. (Previously presented) The device of claim 58 wherein the packet protocol comprises an Internet protocol (IP).

60. (Previously presented) The device of claim 59 wherein the Internet protocol is the transmission control protocol (TCP)/Internet protocol (IP) protocol.

61. (Previously presented) The device of claim 58 wherein the at least one access device comprises a network interface circuit that communicates using a packet protocol.

62. (Previously presented) The device of claim 61 wherein the packet protocol is the transmission control protocol (TCP)/Internet protocol (IP) protocol.



63. (Previously presented) The device of claim 58 wherein the at least one access device comprises a network interface circuit that communicates using a wired network.

64. (Previously presented) The device of claim 63 wherein the wired network comprises a public switched telephone network.

65. (Previously presented) The device of claim 64 wherein the network interface circuit is compatible with a conventional analog loop connection.

66. (Previously presented) The device of claim 58 wherein the contents of each digital voice packet transmitted wirelessly by a communication device of a first party is received in a digital voice packet by a destination party.

67. (Previously presented) The device of claim 58 wherein the communication network comprises a plurality of access devices, and wherein routing of digital voice packets between access devices is based upon a cost.

68. (Previously presented) The device of claim 58, wherein a user is prompted to select a routing alternative using routing information received by the communication device.

69. (Previously presented) The device of claim 58, wherein the wireless communication circuitry comprises at least one wireless receiver and at least one wireless transmitter.

70. (Previously presented) The device of claim 69, wherein the at least one wireless receiver and the at least one wireless transmitter comprises a single transceiver.

71. (Previously presented) The device of claim 58, wherein the wireless communication circuitry comprises at least one transceiver.

72. (Previously presented) The device of claim 71, wherein the at least one transceiver comprises a single transceiver.

73. (Currently amended) One or more circuits for use in a communication device supporting the ~~exchange~~ communication of voice and data, the one or more circuits comprising:

at least one interface to circuitry for wirelessly ~~exchanging~~ communicating one or both of digitized voice packets and data packets with at least one access device of a communication network using a packet ~~protocol~~ protocol, wherein a packet is a unit of information transmitted as a whole from one device to another over the communication network; and

at least one processor operably coupled to the at least one interface, the at least one processor operating to:

receive, for wireless transmission as digital voice packets, first digital voice data converted from a first electrical signal representative of sound, and transmit, for conversion to a second electrical signal representative of sound, second digital voice data wirelessly received in digital voice packets,

capture digital data into data packets for wireless transmission, and reproduce digital data from wirelessly received data packets,

evaluate a message wirelessly received from the at least one access device;

send to the at least one access device an indication of a data rate based on the evaluation;

receive digital voice packets from the at least one access device at a data rate selected by the at least one access device based upon the indication of a data rate; and

wherein digital voice packets wirelessly ~~exchanged~~ communicated by the communication device and the at least one access device comprise destination information used for routing the digital voice packets through the communication network.

74. (Previously presented) The one or more circuits of claim 73 wherein the packet protocol comprises an Internet protocol (IP).

75. (Previously presented) The one or more circuits of claim 74 wherein the Internet protocol is the transmission control protocol (TCP)/Internet protocol (IP) protocol.

76. (Previously presented) The one or more circuits of claim 73 wherein the contents of each digital voice packet transmitted wirelessly by a communication device of a first party is received in a digital voice packet by a destination party.

77. (Previously presented) The one or more circuits of claim 73 wherein the at least one processor queues received digital voice data and delays conversion of queued digital voice data for an adjustable period of time.

78. (Previously presented) The one or more circuits of claim 77 wherein the at least one processor adjusts the period of time based upon a network propagation delay.

79. (Previously presented) The one or more circuits of claim 77 wherein the at least one processor determines the adjustable period of time using a packet sent to the communication device in response to a packet sent by the communication device.

80. (Previously presented) The one or more circuits of claim 79 wherein the packet sent by the communication device is a test packet.

81. (Previously presented) The one or more circuits of claim 73 wherein the wireless communication employs a frequency of approximately 2.4 gigahertz.

82. (Previously presented) The one or more circuits of claim 73 wherein the communication device employs a frequency hopping spread spectrum technique.

83. (Previously presented) The one or more circuits of claim 73 wherein the communication device employs a direct sequence spread spectrum technique.

84. (Previously presented) The one or more circuits of claim 73 wherein digitized voice packets and data packets are transported wirelessly without regard to content.

85. (Previously presented) The one or more circuits of claim 73 wherein the at least one processor further operates to cause routing of one of the following: digital voice data, digital voice packets and electrical signals representative of sound, over a wired network.

86. (Previously presented) The one or more circuits of claim 85 wherein the routing is selected by a user of the communication device.

87. ((Previously presented) The one or more circuits of claim 85 wherein the wired network is a packet network.

88. (Previously presented) The one or more circuits of claim 85 wherein the wired network is a public switched telephone network.

89. (Previously presented) The one or more circuits of claim 73 wherein the indication of a data rate is a data rate.

90. (Previously presented) The one or more circuits of claim 73 wherein the evaluated message is received periodically from the at least one access device.

91. (Previously presented) The one or more circuits of claim 90 wherein the message received periodically is a polling message.

92. (Previously presented) The one or more circuits of claim 73 wherein evaluating a message evaluates reception of a message preamble.

93. (Previously presented) The communication network of claim 22 wherein the indication of a data rate is a data rate.

94. (Previously presented) The communication network of claim 22 wherein the evaluated message is received periodically from the at least one access device.

95. (Previously presented) The communication network of claim 94 wherein the message received periodically is a polling message.

96. (Previously presented) The communication network of claim 22 wherein evaluating a message evaluates reception of a message preamble.

97. (Previously presented) The communication network of claim 39 wherein the indication of a data rate is a data rate.

98. (Previously presented) The communication network of claim 39 wherein the evaluated message is received periodically from the at least one access device.

99. (Previously presented) The communication network of claim 98 wherein the message received periodically is a polling message.

100. (Previously presented) The communication network of claim 39 wherein evaluating a message evaluates reception of a message preamble.

101. (Previously presented) The communication device of claim 58 wherein the indication of a data rate is a data rate.

102. (Previously presented) The communication device of claim 58 wherein the evaluated message is received periodically from the at least one access device.

103. (Previously presented) The communication device of claim 102 wherein the message received periodically is a polling message.

104. (Previously presented) The communication device of claim 58 wherein evaluating a message evaluates reception of a message preamble.

105. (New) The network of claim 22, wherein the at least one portable terminal communicates with the at least one access device in each of a series of regular time intervals using bandwidth of a shared channel allocated by the at least one access device in response to requests received from a plurality of portable terminals for each time interval.

106. (New) The network of claim 22, wherein the at least one portable terminal transmits a call setup request identifying a voice call destination to the at least one access device, and wherein in response, the at least one access device establishes a voice call by routing digital voice packets of the voice call between the at least one portable terminal and a packet-based network, or by transferring voice signals representing digital voice packets received from the at least one portable terminal to a circuit switched network and transferring digital voice packets representing voice signals received from the circuit switched network to the at least one portable terminal, based upon the call setup request.

107. (New) The network of claim 39, wherein the at least one portable terminal communicates with the at least one access device in each of a series of regular time intervals using bandwidth of a shared channel allocated by the at least one access device in response to requests received from a plurality of portable terminals for each time interval.

108. (New) The network of claim 39, wherein the at least one portable terminal transmits a call setup request identifying a voice call destination to the at least one

access device, and wherein in response, the at least one access device establishes a voice call by routing digital voice packets of the voice call between the at least one portable terminal and a packet-based network, or by transferring voice signals representing digital voice packets received from the at least one portable terminal to a circuit switched network and transferring digital voice packets representing voice signals received from the circuit switched network to the at least one portable terminal, based upon the call setup request.

109. (New) The device of claim 58, wherein the communication device communicates with the at least one access device in each of a series of regular time intervals using bandwidth of a shared channel allocated by the at least one access device in response to requests received from a plurality of communication devices for each time interval.

110. (New) The device of claim 58, wherein the communication device transmits a call setup request identifying a voice call destination to the at least one access device, and wherein in response, the at least one access device establishes a voice call by routing digital voice packets of the voice call between the communication device and a packet-based network, or by transferring voice signals representing digital voice packets received from the communication device to a circuit switched network and transferring digital voice packets representing voice signals received from the circuit switched network to the communication device, based upon the call setup request.

111. (New) The one or more circuits of claim 73, wherein the communication device communicates with the at least one access device in each of a series of regular time intervals using bandwidth of a shared channel allocated by the at least one access device in response to requests received from a plurality of communication devices for each time interval.

112. (New) The one or more circuits of claim 73, wherein the communication device transmits a call setup request identifying a voice call destination to the at least one access device, and wherein in response, the at least one access device establishes

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a voice call by routing digital voice packets of the voice call between the communication device and a packet-based network, or by transferring voice signals representing digital voice packets received from the communication device to a circuit switched network and transferring digital voice packets representing voice signals received from the circuit switched network to the communication device, based upon the call setup request.